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# UNITED STATES DEPARTMENT OF AGRICULTURE

## BUREAU OF ANIMAL INDUSTRY

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### INSTRUCTIONS FOR APPLYING THE OPHTHALMIC MALLEIN TEST

#### TECHNIQUE

**Equipment.**—The only equipment needed for the application of the ophthalmic test is a small, soft, clean camel's-hair brush or a glass medicine dropper with a rounded end.

**Method of application.**—The mallein is to be applied only when there is no evidence of conjunctivitis or other inflammatory condition of the eye. In the presence of such conditions the test should not be applied.

It is best, as a routine procedure in order to avoid mistakes and to simplify record keeping, to apply the test uniformly to the right eye, the left eye being untreated. When any exception is made to this rule, suitable note of the fact should be taken.

The head of the animal to be tested should be held firmly by an assistant and two or three drops of the concentrated ophthalmic mallein should be placed in the lower conjunctival sac by means of the medicine dropper, or the mallein may be applied by means of the camel's-hair brush, which is first dipped into the

mallein and then brushed lightly over the conjunctiva of both the upper and lower lids.

#### THE REACTION AND JUDGMENT OF RESULTS

Increased lachrymation, some reddening of the conjunctiva, and a slight photophobia in the eyes of healthy animals are usually observed. No significance should be attached to these symptoms. They appear very soon after the introduction of the mallein and disappear within a few hours. The characteristic reaction in the case of glandered animals appears as a rule not earlier than the fifth or sixth hour and increases from that time until the twelfth or eighteenth hour, when it may begin to subside. It is usual for the reaction to last for from 24 to 36 hours and at times longer.

The characteristic reaction consists in a distinct, purulent discharge from the tested eye while the untested eye remains unaffected. The conjunctiva of the lids and the eyeball should always be included in the examination after an inspection of the discharge. By comparison with the untested eye it may be determined whether there is inflammation of the conjunctiva. The eyelids should be examined for indications of swelling. The indications of a reaction, it should be remembered, may be wholly or partly obliterated (either intentionally by attendants or accidentally by the animals). In such cases dry pus may be found adhering to the hair around the eye and at times freshly formed pus may be observed in the conjunctival sac when the lid is retracted.

In the absence of any secretion from the eye or evidence of conjunctivitis the test should be regarded

as negative. When there is a clear mucous discharge or continued lachrymation persisting to the twelfth or sixteenth hour after application of the mallein, the reaction is to be regarded as doubtful and the test may be repeated immediately, using the same eye, when as a rule the results are more sharply defined.

The ophthalmic test should not be made more than three times on the same animal within a short period. Experiments show that after the third application within three months the reaction usually loses its intensity in positive cases and in subsequent tests may fail entirely. When the results of the second test in doubtful cases are not clearly decisive, blood should be drawn and submitted to a laboratory for the complement-fixation test. Animals may be retested at intervals of six months with satisfactory results.

The results of the test should be recorded as follows:

N=Negative. Eye unchanged.

S=Suspicious. Seromucous discharge.

S=Suspicious. Conjunctivitis with (or without) seromucous discharge.

P+=Positive. Seromucous discharge, with purulent flakes.

P++=Positive. Distinct, purulent discharge.

P+++ =Positive. Purulent discharge, with swelling of the eyelids.

P++++=Positive. Strong purulent discharge, with swelling and gluing together of both lids.

